reports received from a number of vessels in that locality, this disturbance developed into a violent cyclonic storm a few hours afterwards, although it was of short duration and limited extent. Ensign Roger Brooks, United States Navy, who was attached to the U. S. S. *Zeppelin*, reported that the barometer began to fall at about 3 a. m. on the 3d, light southerly winds prevailing at the time. The barometer continued to fall until 3 p. m. when the lowest reading of 29.52 inches was observed. At 11 a. m. the direction of the wind was SSE. force 7, and increased in intensity to SW. by S., force 10, at 3:05 p. m. when the last rain squall occurred. The sky then cleared, with diminishing wind and rising barometer. During the height of the gale some seas came over the bows of this 15,000-ton ship, and the spray went over the tops of the funnels. The weather after 4 p. m. was sunny, with Cu.Nb. clouds about the horizon. At the time of the first heavy blow, the vessel was about 550 miles east of New York, while her position at Greenwich mean noon, September 3, was latitude 39° 44′ N., longitude 61° 15′ W.

Capt. R. C. Henderson of the British steamship *City of Oran* encountered the same storm and was not far west of the *Zeppelin*, as at local mean noon September 3 the position of his vessel was given as latitude 40° north, longitude 64° 31′ west. At 4 a. m. on the 3d the barometer read 29.98 inches; it then fell rapidly to 29.60 inches at 9:30 a. m., when the wind began to freshen. By 11 a. m. it was blowing a whole gale from the southeast, the barometer reading 29.15 inches, and by noon the wind had increased in intensity to over 90 miles an hour, and the barometer had fallen to 28.85 inches, which was the lowest reading recorded. During this period it was impossible to keep the ship headed into the wind with the engine turning ahead at full speed. After 1 p. m. the barometer began to rise and the wind to shift, gradually working around through the south to WSW. by 3 p. m. This caused a breaking sea which created considerable damage, as windows in the bridge shelter were blown in, one lifeboat smashed, and other minor injuries sustained. Capt. Henderson stated that while this storm was of short duration, the wind was the most violent he had ever experienced. As an illustration of its force, the hold ventilators were swaying like wind vanes, while on ordinary occasions it takes a man's full strength to turn them a little at a time. A number of other vessels sent in reports regarding this storm, but none of them apparently experienced as heavy weather as the *Zeppelin* and *City of Oran*.

At Greenwich mean noon on September 3, as shown on Chart IX, there was a second disturbance central near latitude 50°, longitude 25°, that was much greater in extent and duration than the one just described. A number of vessels near the center reported barometer readings of between 28.95 inches and 28.99 inches, and in the storm log the observer on board the American steamship *West Harcuvar* states: "Gale began on the 2d; wind southwest. Lowest barometer, 28.93 inches on the 3d; latitude 49° 02′ N., longitude 23° 15′ W. End of gale on the 5th; highest force 75 miles an hour; shifts of wind near time of lowest barometer, 12 points to northwest."

During the next 24 hours, as shown on Chart X, the western disturbance moved rapidly northeastward, and on the 4th the center was near St. Johns, Newfoundland, where the barometer reading had fallen from 30.20 inches on the 3d to 29.40 inches. Moderate southerly gales were reported in the easterly quadrants, while winds of less force were prevalent over the region south and west of St. Johns, with rain along the Canadian coast. On the 4th the center of the eastern low was near latitude 52°, longitude 20°, and while the barometer readings near the center were somewhat higher than on the previous day, strong gales still prevailed in the southern quadrants, as shown on Chart X.

From September 7 to 14 one of the most severe and protracted tropical hurricanes on record prevailed in the West Indies and Gulf of Mexico. This storm is described elsewhere (see pp. 664, 673), and Charts XI to XVIII show the general conditions at Greenwich mean noon of each day during its existence. Since the extremely low barometer readings reported were observed between Greenwich mean noon observations, the data on the charts do not show the minimum pressures or maximum wind velocities, especially as on some days there were comparatively few vessel reports received from localities where they were most needed.

On the 14th (see Chart XVIII) there were a number of vessels in the eastern part of the northern steamer lanes that encountered southerly gales of from 40 to 50 miles an hour. On the 15th one vessel near latitude 56°, longitude 28°, reported a westerly wind of over 60 miles an hour, but as no reports were received from other vessels in that locality, it was impossible to determine the extent of the disturbance.

On a number of different days during the remainder of the month widely scattered observations were received from vessels in the northeastern division of the ocean, indicating extensive areas of low pressure with winds of gale force, although not enough reports have been received up to date (October 31) for an accurate charting of the conditions in this region.

NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

British Isles.—The month was distinguished by great fluctuations in temperature, some daily readings being unusually high for the time of year and others equally low. Snow fell [about the 20th] over a large portion of North Britain, and sleet or hail in many southern districts. The general rainfall, expressed as a percentage of the average, was: England and Wales, 78; Scotland, 112; Ireland, 97.—*Symons's Meteorological Mag., Oct., 1919, p. 109.*

Argentina-Chile.—It has again been necessary to abandon the efforts being made to reestablish passenger traffic across the Andes over the sections of the Transandine Railway, which have been blocked by snow since May last.—*New York Sun, Oct. 13, 1919.*